Space Weather Forecast

Issued on Saturday, 06 July 2024 at 00:27 Local

This forecast provides a four day assessment of space weather events. The probabilities stated below are for reaching or exceeding the given levels. For more information about space weather impacts please see the Met Office Space Weather Scales https://www.metoffice.gov.uk/weather/learn-about/space-weather/uk-scales

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Space Weather Forecast Headline: Chance of isolated Moderate-class X-ray flares throughout.

Analysis of Space Weather Activity over past 24 hours

Solar Activity: Solar activity was Low, with several Common class flares observed in the past 24 hours. Nine sunspot regions cover the Earth-facing disc. The largest remains in the northwest, where some of the flares originated from. No Earth-directed Coronal Mass Ejections (CMEs) have been observed in imagery during the past 24 hours.

Solar Wind / Geomagnetic Activity: Solar winds remained Slow and the Interplanetary Magnetic Field (IMF) was largely weak to moderate with the important north-south component varying weakly. Geomagnetic activity was Quiet-Unsettled (Kp1-3).

Energetic Particles / Solar Radiation: No solar radiation storms were observed.

Four-Day Space Weather Forecast Summary

Solar Activity: There remains a chance of further isolated Moderate-class flares, perhaps most likely from the largest sunspot mentioned in the Solar Activity section. Upcoming sunspot region arrivals over the eastern solar horizon in the period should help compensate for western horizon losses.

Solar Wind / Geomagnetic Activity: No CMEs feature in the forecast.
Geomagnetic activity is expected to persist at Quiet to Unsettled levels through the next four days, with the greatest chance of departure from this being over the UTC weekend, with a Slight Chance of isolated Active intervals.

Energetic Particles / Solar Radiation: No solar radiation storms are expected, with a daily Slight Chance of Minor Solar Radiation Storm or greater given the presence of several regions near the (better-connecting) western solar horizon.

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Geomagnetic Storms:

Geo-Magnetic Storm Probability (Exceedance)	Level	Past 24 Hours (Yes/No)	Day 1 (00-24 UTC) (%)	Day 2 (00-24 UTC) (%)	Day 3 (00-24 UTC) (%)	Day 4 (00-24 UTC) (%)
Minor or Moderate	G1 to G2	No	1	1	1	1
Strong	G3	No	1	1	1	1
Severe	G4	No	1	1	1	1
Extreme	G5	No	1	1	1	1

Radio Blackouts - X Ray Flares:

X Ray Flares Probability	Level	Past 24 Hours (Yes/No)	Day 1 (00-24 UTC) (%)	Day 2 (00-24 UTC) (%)	Day 3 (00-24 UTC) (%)	Day 4 (00-24 UTC) (%)
Active	R1-R2 M Class	No	40	40	30	30
Very Active	R3 to R5 X	No	1	1	1	1

Solar Radiation Storms - (High Energy Protons):

Radiation Storms Probability (Exceedance)	Level (cm^{-2} sr^{-1} s^{-1})	Past 24 Hours (Yes/No)	Day 1 (00-24 UTC) (%)	Day 2 (00-24 UTC) (%)	Day 3 (00-24 UTC) (%)	Day 4 (00-24 UTC) (%)
Active	≥ S1	No	5	10	10	5
Very Active	≥ S3 *	No	1	1	1	1
* S3 ≥ 10 MeV ≥ 1000 pfu and / or ≥ 50 MeV ≥ 10 pfu. (pfu = $cm^{-2}sr^{-1}s^{-1}$)						

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